

DO NOT OPEN THIS TEST BOOKLET TILL YOU ARE ASKED TO DO SO

TR/DLTI/CST/P-II/17

Test Booklet Series

**TEST BOOKLET
GENERAL ABILITY TEST**

(PART- II)

(Signature of the Candidate)

(Computer Science Technology)



(Invigilator's Signature)

Time Allowed : 1 hour 30 minutes (One hour thirty minutes)

Maximum Marks : 60

I N S T R U C T I O N S

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE SCREENING TEST, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. **ENCODE CLEARLY THE TEST BOOKLET SERIES IN THE APPROPRIATE PLACE IN THE ANSWER SHEET BY BLACK BALL POINT PEN ONLY.**
3. This Test Booklet contains 60 items (questions). Each question, carrying 1 (one) mark only, has four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the most appropriate. In any case, choose **ONLY ONE** response for each item.
4. You have to mark all your responses by **Black Ball Point Pen only** on the separate Answer Sheet provided. See directions in the Answer Sheet.
5. All items carry equal marks.
6. Before you proceed to mark in the Answer Sheet the responses to various items in the Test Booklet, you have to fill in some particulars in the Answer Sheet.
7. After you have completed filling in responses on the Answer Sheet and the Screening Test is completed, you should handover the Answer Sheet to the Invigilator only. You are permitted to take the Test Booklet with you.
8. Sheets for rough work are appended on the Test Booklet at the end.
9. **Penalty for wrong answers :**
 - (a) There will be four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **one-third** of the marks assigned to that question will be deducted as penalty.
 - (b) If a candidate gives more than one answer, it will be treated as a **Wrong Answer** even if one of the given answers happens to be correct and there will be same penalty as above to that question.
 - (c) If a question is left blank, i.e. no answer is given by the candidate, there will be **no penalty** for that question.

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Four options are given against each of the following questions. Select the best/correct option from among the four options and encode in the answer sheet by **Black Ball Point Pen** only as per example given below :

Example : The capital of India is

(A) Delhi

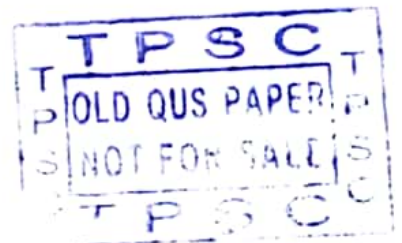
☒ New Delhi

(C) Indraprastha

(D) None of these

1. Which memory is non-volatile and may be written only once ?
 (A) RAM
 (B) EE-ROM
 (C) EPROM
 (D) ROM
2. Which of the following memory is capable of operating at the highest speed ?
 (A) RAM
 (B) Magnetic disks
 (C) DVD
 (D) Magnetic tape
3. A software program stored in a ROM that can not be changed easily is called
 (A) Hardware
 (B) Linker
 (C) Editor
 (D) Firmware
4. The register which keeps track and address of the instruction of a program to be executed is called
 (A) Index register
 (B) MAR
 (C) Program counter
 (D) Instruction register
5. In magnetic disks, data is organized on the platter in a concentric sets of rings are called
 (A) sector
 (B) track
 (C) head
 (D) block
6. Match List 1 with List 2 with reference to form of data representation.

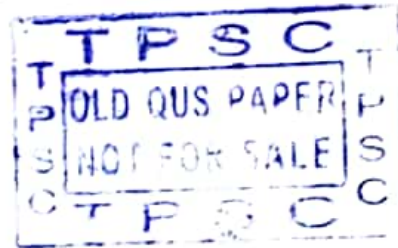
List 1	List 2
(A) RAM	1. Optical sensitive surface
(B) Hard disk	2. 0 and 5 volt
(C) DVD	3. Magnetic spot
(D) CPU	4. 0 and 5 volt



	A	B	C	D
(A)	3	4	1	2
(B)	4	3	1	2
(C)	2	4	3	1
(D)	1	2	4	3

7. In comparison to the internal (main) memory, disk memory is
- (A) slower and more expensive
 - (B) slower and less expensive
 - (C) faster and more expensive
 - (D) faster and less expensive
8. Register which holds the address of the location to or from which data are to be transferred is called
- (A) index register
 - (B) instruction register
 - (C) memory address register
 - (D) memory data register
9. Which of the following adders can add three or more numbers at a time?
- (A) Three bit adder
 - (B) Three number adder
 - (C) Half adder
 - (D) Full adder
10. In which of the following gates, the output is 0 if and only if at least one input is 1?
- (A) OR
 - (B) AND
 - (C) NOR
 - (D) NAND
11. Which of the following gate is used for parity bit generation?
- (A) OR
 - (B) NOR
 - (C) XOR
 - (D) NAND
12. Which of the following gates would output 1 when one input is 1 and other input is 0?
- (A) OR gate
 - (B) AND gate
 - (C) NAND gate
 - (D) Both (A) and (C)
13. A demultiplexer is used to
- (A) route the data from single input to one of many outputs
 - (B) select data from several inputs and route it to single output
 - (C) perform serial to parallel conversion
 - (D) All of these

14. A logic circuit which is used to change a BCD number into an equivalent decimal number is
- (A) decoder
 - (B) encoder
 - (C) multiplexer
 - (D) xy converter
15. Binary equivalent of hexadecimal number BC3 is
- (A) 101111000011
 - (B) 10111100011
 - (C) 1011110011
 - (D) None of these
16. Binary represent
- (A) Machine form
 - (B) Machine language
 - (C) High level language
 - (D) Compiler's output
17. When an odd number is converted into the binary number, the least significant digit is
- (A) 0
 - (B) 1
 - (C) 0 or 1
 - (D) None of these
18. What is the hexadecimal equivalent of binary number 10101111 ?
- (A) AF
 - (B) 9E
 - (C) 8C
 - (D) None of these
19. In a relational schema of a database, each tuple is divided into fields called
- (A) relations
 - (B) domains
 - (C) queries
 - (D) table
20. Every Boyce-Codd Normal Form (BCNF) is in
- (A) 1 NF
 - (B) 2 NF
 - (C) 3 NF
 - (D) None of these
21. The strategy of processing a query is improved by
- (A) Query evaluation
 - (B) Query optimization
 - (C) Decomposition
 - (D) None of these



22. The translation of a query into its internal form is usually done using
- (A) Query processing
 - (B) Relational algebra
 - (C) Database scheme
 - (D) The structure of database
23. The syntax of the users query is verified by the
- (A) Parser
 - (B) The database manager
 - (C) Query optimization
 - (D) Database administrator
24. The operation of a relation X, produces Y such that Y contains only selected attributes of X. Such operation is
- (A) Projection
 - (B) Intersection
 - (C) Union
 - (D) Difference
25. Primary key indexing technique does allow
- (A) Duplicate data in a field
 - (B) Multiple attributes
 - (C) Sets of relations
 - (D) Many to many relations
26. In a relational data model the columns of a table are called
- (A) Fields
 - (B) Attributes
 - (C) Records
 - (D) Entities
27. A language that is used to specify the database scheme through a set of definitions is called
- (A) SQL
 - (B) DDL
 - (C) ERD
 - (D) 4 GL
28. The overall logical structure of a database can be expressed graphically by
- (A) Data flow chart
 - (B) Flow chart
 - (C) Directed graph
 - (D) Entity-Relationship Diagram
29. Which one of these is an aggregate function in SQL ?
- (A) avg
 - (B) select
 - (C) ordered by
 - (D) None of these

30. In DBMS functional dependencies are generalization of
- (A) Key dependencies
 - (B) Relation dependencies
 - (C) Database dependencies
 - (D) None of these
31. In a relational database a referential integrity constraint is specified with the help of
- (A) Primary key
 - (B) Foreign key
 - (C) Secondary key
 - (D) Consistency checking
32. A system program that set up a executable program in main memory ready for execution is
- (A) Assembler
 - (B) Linker
 - (C) Loader
 - (D) Text editor
33. Type checking is normally done during
- (A) Lexical analysis
 - (B) Syntax analysis
 - (C) Syntax directed translation
 - (D) Code optimization
34. The process of transferring data intended for a peripheral device into a disk so that it can be transferred to peripheral device at a more convenient time or in bulk is known as
- (A) Multiprogramming
 - (B) Spooling
 - (C) Caching
 - (D) Virtual programming
35. The grep command in UNIX is used to
- (A) Sort the records of a given file
 - (B) Search a file for the presence of a given string
 - (C) Globally replace a string by another
 - (D) None of the above
36. In UNIX information about a file is stored in
- (A) a system-wide file table
 - (B) the inode associated with the file
 - (C) a file allocation table within the kernel
 - (D) None of the above

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[Turn over

37. In UNIX, mounting a file system means
- (A) Copying all the files from one file system to another
 - (B) Moving all the files from one file system to another
 - (C) Loading a file system from back-up medium
 - (D) Providing a link to the file system to be attached so that it appears as a local subdirectory
38. In C++, 'new' is used
- (A) to deallocate memory
 - (B) to identify a new variable
 - (C) to define friend function
 - (D) allocates memory dynamically
39. Availability of source code at compile time is called
- (A) Static binding
 - (B) Dynamic binding
 - (C) Late binding
 - (D) Hybrid binding
40. In C++, a function is called automatically when an object is created is known as
- (A) Instance
 - (B) Function prototype
 - (C) Structure
 - (D) Constructor
41. In C++, in a class, only the member function can access data which is not accessible to outside. The feature is called
- (A) Data limitation
 - (B) Data hiding
 - (C) Data manipulation
 - (D) Data locking
42. In C++, a function that results in a reduction of processing and function call overload of the program is called
- (A) inline function
 - (B) friend function
 - (C) virtual function
 - (D) None of the above
43. In C++, it is possible to allow non-member function access to private members of a class by declaring it as
- (A) friend
 - (B) public
 - (C) private
 - (D) None of the above
44. C language developed at — ?
- (A) AT&T's Bell Laboratories of USA
 - (B) Sun Micro systems
 - (C) Cambridge University
 - (D) MIT of USA

45. If the integer needs two bytes of storage, then maximum value of an unsigned integer is

(A) $2^{16} - 1$

(B) $2^{15} - 1$

(C) 2^{16}

(D) 2^{15}

46. Which of the following is not a correct variable type in C language?

(A) float

(B) real

(C) int

(D) double

47. What number would be shown on the screen after execution of the following C statements?

```
char ch;
```

```
int i;
```

```
ch = 'G';
```

```
i = ch - 'A';
```

```
printf ("%d", i);
```

(A) 3

(B) 6

(C) 8

(D) None of these

48. What will be output if you will execute the following C code?

```
void main ( )
```

```
{ int i = 4, x;
```

```
  x = ++i + ++i + ++i;
```

```
  printf ("%d", x);
```

(A) 12

(B) 15

(C) 21

(D) None of the above

49. In order to fetch the address of the variable, we write preceding — sign in C code.

(A) Percent

(B) Ampersand

(C) Comma

(D) Asteriks

50. In C code break statement is used to

(A) quit a program

(B) quit the current iteration

(C) Both of the above

(D) None of the above

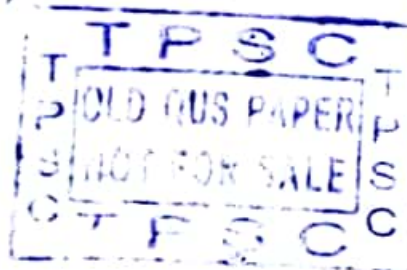
51. In C code continue statement is used

(A) to continue to the next line of code

(B) to quit the current iteration and go to outside iteration

(C) to stop current iteration and begin the next iteration from the beginning of the loop

(D) None of the above



52. Name the loop that executes at least once in C code.
- (A) for
 - (B) if
 - (C) while
 - (D) do-while
53. In C code, a character variable can at a time store —.
- (A) one character
 - (B) multiple words
 - (C) two characters
 - (D) one word
54. Domain name to IP address conversion is done by
- (A) DHCP server
 - (B) ARP server
 - (C) DNP server
 - (D) DNS server
55. Dynamic IP address is allocated to client by
- (A) Manual configuration
 - (B) DHCP server
 - (C) DHSP server
 - (D) None of the above
56. Transport layer deals with
- (A) application to application communication
 - (B) process to process communication
 - (C) node to node communication
 - (D) None of the above
57. The network layer concerns with
- (A) bits
 - (B) frames
 - (C) packets
 - (D) nibbles
58. 4 byte IP address consists of
- (A) host address
 - (B) network address
 - (C) Both (A) and (B)
 - (D) None of the above
59. A subset of a network that includes all the routes but contains no loops is called
- (A) Spanning tree
 - (B) Spider structure
 - (C) Loopless tree
 - (D) None of the above.
60. Size of MAC address is
- (A) 48 bits
 - (B) 32 bits
 - (C) 16 bits
 - (D) None of the above

(Space for rough work)

